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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/779,686 | 02/09/2001 | Kenji Nishi | 110157.98 | 7206 |

25944 7590 09/25/2002

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EXAMINER

MATHEWS, ALAN A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2851

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------|------------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/779,686 | NISHI, KENJI <i>JK</i> | |
| | Examiner | Art Unit | |
| | Alan A. Mathews | 2851 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/377,504.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The specification is objected to as failing to comply with 37 CFR 1.177(a). This application is one of three reissue applications of the same patent and lacks as the first sentence of the specification the cross reference required by MPEP 1451 and new rule 37 CFR 1.177(a), effective November 7, 2000. Language analogous to the following should be used:

More than one reissue application has been filed for the reissue of U. S. Patent No. 5,477,304. The reissue applications are Application No. 08/994,758 filed December 19, 1997, Application No. 09/779,686 (the present application) filed February 9, 2001, and Application No. 09/962,334 filed September 26, 2001.

Double Patenting

2. Claims 34-50 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9, 13-39, 41-43, 45, 49-55, 68-70, 72-74, 76, 80-84, 96-99, 101-103, 105, 109-115, 128-142, and 189 of copending Application No. 08/994,758. Although the conflicting claims are not identical, they are not patentably distinct from each other because the differences between claims 34-50 of the instant application are obvious modifications of the elements in claims 1-9, 13-39, 41-43, 45, 49-55, 68-

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70, 72-74, 76, 80-84, 96-99, 101-103, 105, 109-115, 128-142, and 189 of copending Application No. 08/994,758.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

3. Claims 38 and 39 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 38, line 10, and claim ³⁹~~29~~, line 12, it is not clear what is meant by “in a direction inclined with respect to said predetermined direction”. The specification does not include the word “incline”. If the specification uses analogous terminology for the word “incline”, Applicant should point out where in the specification this analogous terminology is found in his reply.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claim 38 is rejected under 35 U.S.C. 102(b) as being anticipated by Matsushita et al. (U. S. Patent No. 4,749,867). Matsushita et al. discloses a step-and-scan exposure apparatus.

Matsushita et al. discloses in figure 2 an exposure apparatus in which a portion of a pattern on an original (or mask) 1 is projected onto a substrate 3. The original 1 and the substrate 3 are scanned synchronously. A first stage 2 scanningly moves the original 1 and a second stage 4 scanningly moves the substrate 3. Column 3, lines 13-19 and lines 56-59 disclose the step-feeding of the stage 4. This would be a movement perpendicular to the scanning direction. With respect to lines 10 and 11 of claim 38, the “direction inclined with respect to said predetermined direction” could be considered to be perpendicular. It is noted that claim 38 is indefinite as stated above. It is further noted that Matsushita et al. also corrects a deviation as explained in column 4, lines 41-68, and column 5, lines 1-5.

6. Claim 38 is rejected under 35 U.S.C. 102(a) as being anticipated by the Japanese Patent document 04-196,513 (cited in Applicant’s PTO-1449). The Japanese Patent document 04-196,513 discloses in figure 1 and 9 a scanning system with a reticle stage. After finishing one scanning exposure, the stage 48 is stepped one row over. This step is considered to be in a direction “inclined” with respect to said predetermined direction. The term “inclined” is indefinite as stated above. It is noted that the inventor, Takechika Nishi, may be the same inventor as the instant application Kenji Nishi (see the inventor in U. S. Patent No. 5,473,410, which has the same foreign priority number as the Japanese Patent document 04-196,513). If it is the same inventor, Applicant needs to clarify this in his response.

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7. Claims 38, 42 and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Allen (U. S. Patent No. 5,227,839). Allen discloses in figure 1 a reticle stage 109a (movable body). Unfortunately, Allen mislabels element 109b as the reticle stage on more than one occasion in the specification. Laser interferometer 109b is optically connected to the movable body 109a and has a measurement axis passing through a substantial center of an irradiation region of the exposure beam. With respect to claim 38, Allen is a step and scan system, and the object would be moved (stepped) after the first scanning exposure for the second scanning exposure. The term "inclined" is indefinite as stated above, and is considered to be perpendicular.

8. Claims 38 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Bruning et al. (U. S. Patent No. 5,281,996). Bruning et al. discloses in figure 1 and column 6, lines 5-27, a scanning form of the invention where the first object 13 (mask or reticle) is moved at the same time that ~~the same time that~~ a second object 16 (wafer) is moved. Element 11 is the projection system. Element 12 is the movably body (reticle stage) and is movable in both the X and Y directions (see column 5, lines 4-8). An interferometer system 17 is optically connected to the movable body 12 and has a measurement axis passing through a center of an irradiation region of the exposure beam. With respect to claim 38, Bruning et al. is a step and scan system, and the object would be moved (stepped) after the first scanning exposure and before the second scanning exposure. The term "inclined" is indefinite as stated above, and is considered to be perpendicular.

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9. Claims 42-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Suwa et al. (U. S. Patent No. 4,748,478). Suwa et al. discloses in figures 1 and 2 a movable body 7 (reticle stage) holding a first object R (reticle). A first interferometer system 11 is optically connected to movable body 7 (see column 3, lines 40-45 and column 4, lines 45-65). Laser beams L_{2x} and L_{2y} are incident on mirror 10a and 10b. With respect to claims 44, 45, and 49, column 9, lines 49-51 disclose sensing the rotational angle of the reticle stage.

Allowable Subject Matter

10. Claims 35-37, 40, 41, and 50 would be allowed subject to filing a proper terminal disclaimer. Claim 39 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims and subject to filing a proper terminal disclaimer.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents on Applicant's PTO 1449 are cited for the same reasons Applicant cited them in his INFORMATION DISCLOSURE STATEMENT. The patent to Kenji Nishi (U. S. Patent No. 5,473,410) is cited to show what appears to be the U. S. equivalent to the Japanese Patent document 04-196,513.

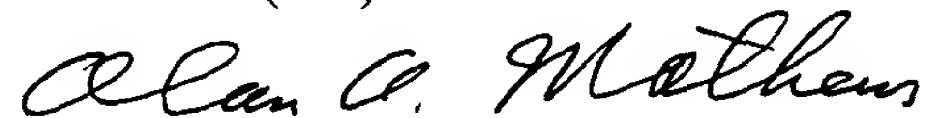
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan A. Mathews whose telephone number is (703) 308-1706.

The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (703) 308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 305-3431 for regular communications and 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Alan A. Mathews
Primary Examiner
Art Unit 2851

AAM
September 20, 2002